

ADJUSTABLE ENDOTRACHEAL TUBE HOLDER

RELATED APPLICATION

This is a continuation-in-part of application Ser. No. 08/608,130, filed Feb. 28, 1996, now abandoned, for ADJUSTABLE ENDOTRACHEAL TUBE HOLDER.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to an endotracheal tube holder assembly and more particularly to a holding block assembly that permits the tube to be adjustably positioned with respect to a patient's mouth.

2. Description of the Prior Art

It should be noted that the present application is an improved embodiment over the tube holder disclosed in my pending application Ser. No. 08/323,159 filed Oct. 14, 1994 for an ENDOTRACHEAL TUBE HOLDER, which in turn is a continuation-in-part of Ser. No. 234,540 filed Apr. 28, 1994, now U.S. Pat. 5,402,776 issued to the present applicant.

Endotracheal tube devices are used under several conditions such as in the ventilation of a patient during anesthesia, resuscitation as well as during critical care that commonly arise not only in the hospital but also during the time when a patient is being transported.

As is well known in the art, various problems and difficulties are encountered in providing suitable means for securing an endotracheal tube in a simple and positive manner to a tube holding device that is generally a part of a mouth piece of the face plate assembly.

Many types of securing arrangements have been tried in the prior art which very often included simply mounting the tube in place with adhesive tape that was applied to the tube and several areas of the patient's face. Some endotracheal tubes were mounted in a face plate that included a bite block whereby the patient was required to grip the bite block with his or her teeth. However, other prior art tube holders have included locking means for securing the endotracheal tube to the face plate of the tube holder.

For typical examples of prior art endotracheal tube holders one may refer to those disclosed in the following U.S. patents:

U.S. Pat. No. 4,867,154 issued to A. B. Potter, et al;
U.S. Pat. No. 4,832,019 issued to B. Weinstein;
U.S. Pat. No. 4,744,358 issued to G. E. McGinnis;
U.S. Pat. No. 4,537,192 issued to B. R. Foster;
U.S. Pat. No. 4,449,527 issued to D. L. Hinton;
U.S. Pat. No. 4,249,529 issued to J. Nestor, et al.
U.S. Pat. No. 5,402,776 issued to Steve Islava

In addition to the above patents see U.S. Pat. No. 5,490,504 ("504 patent") which issued to D. W. Vrona et al. The '504 patent teaches an endotracheal tube attachment device in which a flexible track strip is secured across the upper lip and adjacent cheek area of a patient by means of an adhesive. Such an adhesive, in intimate contact with a patient's skin for a prolonged period, irritates the skin and often results in a breakdown of the skin tissue. To properly provide long term care of patients, depending upon an endotracheal tube, it is necessary to clean the oral cavity frequently, e.g., every 2-4 hours, to prevent or inhibit the development of oral pneumonia. The '504 track strip would not appear to be conducive to such cleaning practices

because the adhesive would be wetted by such secretions, thereby providing a further irritant to the skin underlying the track and adhesive. Furthermore, the tube attachment device disclosed in the '504 patent is not useable, as a practical matter, with patients that normally wear dentures since, in the absence of such dentures, there is inadequate support for the track strip.

There is a need for an adjustable endotracheal tube holder suitable for long term use which overcomes the disadvantages of the prior art.

BRIEF SUMMARY AND OBJECTS OF THE INVENTION

An endotracheal tube-holder assembly in accordance with the present invention comprises a pair of oppositely disposed face plates that can either be fixedly or hingedly attached to the opposite ends of a rigid curved track. A holding block assembly comprising a housing is slidably mounted on the track so as to be adjustably positioned over the patient's mouth once the face plates and track are mounted on the patient's head by means of a suitable headband.

Thus, the present invention has for an important object to provide a unique endotracheal tube-holder assembly that includes an arcuate track member which is held in a spaced relationship with the area surrounding the patient's mouth by a pair of face plates mounted at each end of the track. The spacing between the track member and the patient's mouth accommodates the circulation of air between the track and the area surrounding the mouth thereby minimizing the accumulation of secretions in such area. The arcuate track is arranged to slidably support a holding block assembly that includes a means for attaching an endotracheal tube and a means for removably supporting a bite block.

Another object of the invention is to provide a pair of face plates that are respectively mounted to the opposite ends of the track so to be positioned on a patient's face to engage the respective cheeks thereof. Still another object of the present invention is to provide a holding block and rail assembly which allows the endotracheal tube to be adjustably moved along the rail assembly in a longitudinal direction, (across the patient's mouth) whereby the tube can be located at a desired position with respect to a patient's mouth. Yet another object of the present invention is to provide an endotracheal tube holder that will accommodate a number of different sizes of tubes, whereby a selected tube can be firmly placed within the housing of the block assembly.

Still another object of the invention is to provide an endotracheal tube holder that includes a bite-block mounting unit formed with a V-shaped projection adapted to receive a corresponding V-shaped channel formed longitudinally in a removable bite block, and wherein the bite block further aids in the alignment of the tube within the mouth of the patient.

A further object of the present invention is to provide an endotracheal tube holder assembly, wherein the face plates can be either fixedly mounted to the track or hingedly attached to fit a specific contour of the individual's face without interfering with the positioning of the endotracheal tube, and wherein each face plate is provided with a foam pad to protect the patient from inadvertent injury or discomfort.

Still another object of the present invention is to provide a tube holder of this character that includes an adjustable headband that is arranged to be connected at the opposite ends of the track member by means of buckle members or to the face plates, wherein the headband is adjustably